

Notice of Allowability

Application No.

10/785,448

Examiner

Long K. Tran

Applicant(s)

KOON TIAN ET AL.

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Appl. filed on February 24, 2004.
2. ☒ The allowed claim(s) is/are 1 - 32.
3. ☒ The drawings filed on February 24, 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/118,570.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 02/24/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


David NelmsSupervisory Patent Examiner
Technology Center 2800

Election/Restrictions

Claims **1 – 66** are pending in this application.

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I. Claims **1 – 32**, drawn to a semiconductor device, classified in class **257**, subclass **787**.

Group II. Claims **33 – 66** drawn to a product made, classified in class **438**, subclass **112**.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions **II** and **I** are related as process of making and product made. The inventions are distinct if either or both of following can be shown: (1) that the process as claimed can be use to make other and materially different product or by hand, or (2) that process as claimed can be made by another and materially different process. (MPEP § 806.05(f)). In the instance case unpatentabilities of the group **I** invention would not necessarily imply unpatentability of the group **II** invention, since the device of the group **I** invention could be made by the processes materially different from those of the group **II** invention, for example, in claim 87, providing a removable substrate; providing a support on the removable substrate; providing adhesive on a surface of the die; attaching die with adhesive to the support; removing the removable substrate; providing a paste on a substrate; and positioning the support on the paste.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, the fields

of search are not co-extensive. Therefore, separate examination would be required and restriction for examination purposes as indicated is proper.

4. This application also contains claims directed to the following patentably distinct species of the claimed invention:

a) Species I, e.g. claims 33 – 38: Method for manufacturing a semiconductor device having the steps of connecting a die to a substrate by wire bonding.

b) Species II, e.g. claims 39 – 66: method for manufacturing a semiconductor having the steps of connecting a die to a substrate by providing an adhesive....; providing a support....; and providing a paste....

5. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claims is finally held to be allowable. Currently, no claim is generic. Applicant is advised that a response to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is all claims are generic is considered non-responsive unless accompanied by an election.

6. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 C.F.R. 1.141. If claims are added after the selection, applicant must indicate which are readable upon the elected species.

M.P.E.P. 809.02(a). Should applicant traverse on the ground that the species are not patent-able distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is

the case. In either instance, if the examiner finds one of the inventions un-patent-able over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 of the other invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventor-ship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventor-ship must be accompanied by a diligently filed petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(h).

EXAMINER'S AMENDMENT

8. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Timothy B. Clise on March 4, 2005. The application has been amended as follows:

Claims **33 – 66** have been cancelled;

Claims **1 – 32** are presented for examination.

Priority

9. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/118,570, filed on April 08, 2002.

Information Disclosure Statement

10. This office acknowledges of the following items from the Applicant:
Information Disclosure Statement (IDS) filed on February 24, 2004.
The references cited on the PTO -1449 form have been considered.

Allowable Subject Matter

11. Claims **1 – 32** are allowed.
12. The following is an examiner's statement of reasons for allowance: Claims **1 – 32** are allowable over the prior art of record because none of the prior art (the AAPA, Freyman et al. (US Patent no. 6,124,637), Kawahara et al. (US Patent no. 6,11,306) and Yoneda et al. (US Patent no. 65,625,222)) whether taken singularly or in combination, especially when these limitations are considered within the specific combination claimed, to teach:

A void 250 (fig. 2) or 850 (fig. 8) bound by a support assembly comprising an adhesive, a spacer and a paste layer extending intermediate a die and a substrate; and among others limitations cited in the independent claims 1,8, 15, 24 and 29.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long K. Tran whose telephone number is 571-272-1797. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Long Tran *UKT*

March 04, 2005


David Nelms
Supervisory Patent Examiner
Technology Center 2800